

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V (DRAFT) NO. V-03-027
MARKWEST HYDROCARBON, INC.
LANGLEY, KY.

MASSOUD KAYVANJAH, REVIEWER, COMPLETED ON JANUARY 23, 2004
PLANT I.D. # 021-071-00160
APPLICATION LOG # 53104

SOURCE DESCRIPTION:

A. Permits Background

Type	Log #	Issuance Date	Summary of Action
S-99-079 Permittee: MarkWest Hydrocarbon, Inc.	G228 (51021)	12/12/1999	State Origin Permit for Construction/Operation of Flare and Fugitives only

B. SOURCE PROCESS:

MARKWEST Hydrocarbon, Inc. (AFS # 21-071-00160) owns the hydrocarbon extraction facilities adjacent to Kentucky Hydrocarbon, Inc. (AFS # 21-071-00140) which is a natural gas compression station (EP-01 & EP-02). The MarkWest extraction processing equipment is a sealed system; consequently it is not listed as an emission point. EP-03 is an emission point which lists fugitive emissions from the extraction process, and EP-04 is an emergency flare.

These two adjacent facilities together are considered by the Kentucky Division for Air Quality to be a single "major source" as defined in 401 KAR 52:001, Section (1)(45)(b), definition of Major source for regulated air pollutants other than HAPS. Each owner/operator is responsible and liable for their own violations unless there is a joint cause for the violations.

Kentucky Hydrocarbon is a major source for nitrogen oxide (NO_x) and a minor source of carbon monoxide, VOC, particulate matter, sulfur dioxides, and HAPs and is being issued a Title V permit. MarkWest Hydrocarbon is also being issued a Title V permit, because it is considered as a single source along with Kentucky Hydrocarbon for Title V threshold calculations.

Kentucky Hydrocarbon produces liquid hydrocarbons from natural gas pipes entering the plant. Natural gas is liquefied by the compression facilities (EP-01 & EP-02) and is regulated under separate permit (V-03-026). MarkWest Hydrocarbon owns the processing facilities (EP-03) where water content is removed and hydrocarbons are cooled for recovery. The liquids are segregated into propane, butane, ethane, pentane, methane, gasoline, and remaining residue gas is sold for natural gas heating process. MarkWest also owns Flare (EP-04), which is an emergency flare to be used by Kentucky Hydrocarbon compression units as well as by the MarkWest extraction unit in case of overpressure.

COMMENTS:

In 1999 MarkWest Hydrocarbon, Inc. constructed a hydrocarbon extraction facility at Kentucky Hydrocarbon compression station that includes process equipment Fugitives EP-03, and safety Flare EP-04. For PSD and Title V purposes all the facilities emissions contained within these two plants are considered as emissions from single source.

EP-03 (MW01) Extraction System Fugitives**Description:**

<u>Equipment Type</u>	<u>Number of Components</u>	<u>Date Installed</u>
Valves	461	October 1999
Pump Seals	7	“
Compressor/valves	14	“
Connectors	67	“
Flanges	234	“

Applicable Regulations:

- 401 KAR 60.005 (*40 CFR 60 Standards of Performance for New Stationary Sources*)
- 40 CFR 60 Subpart KKK, *Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants*
 - 40 CFR 60.632 *Standards*
 - 40 CFR 60.635 *Recordkeeping*
 - 40 CFR 60.636 *Reporting*
- 40 CFR 60 Subpart VV, *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry*
 - 40 CFR 60.482-1 through 10, *Standards*
 - 40 CFR 60.483-1 and 2, *Alternative Standards*

EP-04 (MW02) Flare**Description:**

One Kaldair Azdair flare with a 2.5 Mscf/yr natural gas pilot and purge.

Construction commenced: October 1, 1999

Flare includes a 150' Height, 5' Diameter stack. Design efficiency is 98% at a flow rate of 16,000 ACFM, with an exit velocity of 396 ft/sec, and operates 8760 hrs/yr (This velocity reflects operation of a 30 hp air assist blower during abnormal operating, emergency conditions.)

APPLICABLE REGULATIONS:

- 401 KAR 59:010 *New Process Operations* constructed after July 2, 1975.
- 401 KAR 63.015 *Flares*
- 40 CFR 60.18 *General Control Device Requirements*
- 40 CFR 60, Appendix A, *Test Methods*, Method 9

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

PUBLIC AND U.S. EPA REVIEW:

On December 10, 2003, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in the *Floyd County Times*, Kentucky. The public comment period expired 30 days from the date of publication. During this time no comments were received from the general public or the affected states (Virginia). The permit is now being issued as a proposed permit. The U.S. EPA has 45 days from the date of the issuance to submit comments. If no comments are received during this period, the Division considers the permit final as conditioned.